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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/600,712	10/18/2000	Ernest Appleton	UDL1P027	9109

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EXAMINER
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COLE, LAURA C

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 02/19/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/600,712

Applicant(s)

APPLETON ET AL.

Examiner

Laura C Cole

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following must be shown or the feature(s) canceled from the claim(s).

Claim 1, Line 1, "two bodies" are not shown.

Claim 1, Lines 1-2, interconnected by "means" is not shown.

Claim 4, Lines 1-2, "alternate bristles...are inclined...in alternate directions in a rotational direction" are not shown.

Claim 9, Line 2, "a plurality of pistons" is not shown.

Claim 13, Line 2, "one or more sensors" is not shown.

Claim 16, Line 3, "electrical power" is not shown.

Claim 18, Line 2, a "hydraulic or pneumatic cylinder" is not shown.

Claim 19, Line 2, "one or more wheels" is not shown.

Claim 19, Line 3, "links" are not shown.

Claim 20, Line 2, "three or more bodies" is not shown.

Claim 21, Line 2, "bodies coupled together in pairs" is not shown.

Claim 22, Line 2, "a control means" is not shown.

Claim 23, Line 2, an "umbilical line" is not shown.

No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if

the required "Sequence Listing" is not submitted as an electronic document on compact disc).

### ***Claim Objections***

3. Claims 1-23 are objected to because of the following informalities:

Claim 1, Lines 2-3 "each body being *supported upon* a multiplicity of resilient bristles..." is confusing. Do bristles support the bodies or does the body support the bristles?

Claim 7, Line 2 is the word "in" meant to be "is"? Appropriate correction is required.

Claim 19, Line 2 was it meant to have a comma after the word "wheels"?  
Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 Lines 4-5 "...a plurality of...each *guided for movement* in directions..." is unclear. What is meant by "guided for movement"?

Claim 2 Line 2 "*generally flat*" is unclear.

Claim 3 Line 2 "*generally cylindrical*" is unclear.

Claim 3 Line 3 "*generally* radially..." is unclear.

Claim 5 recites the limitation "the whole" in Line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the surface" in Line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 Line 3 "...the whole of a portion of the surface..." is unclear.

Claim 6 Line 3 "*generally* cylindrical" is unclear.

Claim 22 recites the limitation "the relative movement" in Line 3. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 5-8, 11, 12, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Moon, USPN 2,552,339.

Moon discloses a fluid propelled pipe line brush that comprises two rotationally symmetrical bodies (Figure 1, one body being a more "forward" body of bristle carriers (11) and bristles (35) and a second body in the rear of the first "forward" body defined also by carriers (11) and bristles (35)) interconnected by means to move the bodies towards and away from each other (Figure 1, shafts (2, 10); Figure 3; Column 4 Lines

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25-31 disclose that that internal threaded rods may be adjusted which is considered to be a means of moving the bodies towards or away from each other), each body supports a multiplicity of resilient bristles wherein the bristles extend generally radially (Figures 1 and 2 (35)), the bristles are mounted in groups (Figure 1 shows tufts of bristles (35) arranged in groups upon a backing (34)) upon a plurality of bristle carrying members (Figure 1 (11) and Figure 2) each guided for movement in directions towards and away from the body (Figure 1 (15) and Column 4 Lines 16-19), and fluid pressure means to effect movement of the bristle carrying members (Column 4 Lines 12-19). Moon also discloses that the bristle carrying members (11) cover the whole portion of the surface of the body and each form an angular segment of the surface of the generally cylindrical body (Column 2 Lines 41-46). The bristle carrier is guided by pins (Figure 2 (46, 47); Column 3 Line 70 to Column 4 Line 5) and has an inner membrane. Also, there is a resilient means of one or more springs (Column 4 Lines 16-19). The means to move the bodies towards and away from each other comprises fluid pressure (Column 4 Lines 16-19).

6. Claims 1-7, 19-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Thompson et al., USPN 1,608,347.

Thompson et al. discloses a pipe cleaning apparatus that comprises two and more rotationally symmetrical bodies (Figure 3, each body having its own plates (I)) interconnected by means to move the bodies towards and away from each other (Figure 3 (E)), each body supports a multiplicity of resilient bristles (Figure 3 (H)) wherein the bristles extend generally radially (Figures 3) inclined in alternate directions radially

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(Figure 1), the bristles are mounted in groups (Figure 3) upon a plurality of bristle carrying members (Figure 1 (I)) each guided for movement in directions towards and away from the body (Figure 1 (H)), and fluid pressure means to effect movement of the bristle carrying members (Column 2 Lines 88-93). Thompson et al. also discloses that the bristle carrying members (I) cover the whole portion of the surface of the body and each form an angular segment of the surface of the generally cylindrical body (Figure 6; Column 4 Lines 67-74.) The bodies are supported by one or more wheels that are located on links between the bodies (Figures 1-3 (K)). The vehicle comprises three or more bodies wherein the bodies are coupled into pairs at Figures 1-3 (L) with each pair being a fixed distance apart (the distance is fixed in that (L) is not a flexible structure.) Also a control means (Column 6 Lines 81-101) exists to effect the relative movement of the bodies.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon, USPN 2,552,339 in view of Ver Nooy USPN 2,932,837.

Moon discloses elements as mentioned above, however does not disclose the use of pistons to apply movement to bristle-carrying members.



Ver Nooy discloses a conduit cleaning device with one body with cleaning elements (Figure 1 (26)) and cleaning element carriers (Figure 1 (32, 35, 36, 38, 40, 41)) that would be bristle carriers if cleaning elements were to be bristles. Each cleaning element carrier forms an angular segment of a generally cylindrical body (Figure 2.) Ver Nooy further discloses the use of hydraulic pistons (Figures 1 and 2 (40, 41); Column 5 Lines 13-29) as cleaning element carrying members.

It would have been obvious for one of ordinary skill in the art to replace the link of Moon with a piston so that pressure applied by the cleaning elements to the sides of the pipe may be controlled by the user so that in sensitive areas the cleaning will not be rough.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moon, USPN 2,552,339 in view of Sharp et al., USPN 4,447,777.

Moon discloses all elements as mentioned above, however does not disclose a having sensors that monitor the characteristics of a surface.

Sharp et al. discloses a pipeline inspection vehicle that has sensors (Figure 1 (6)) for monitoring the flux, a characteristic, of the interior of a pipeline to sense leakage (Column 3 Line 55 to Column 4 Line 3.)

It would have been obvious to one of ordinary skill in the art to add sensors as Sharp teaches to Moon in order to sense a surface characteristic of a pipeline to prevent catastrophe or waste.

9. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon, USPN 2,552,339 in view of Maness, USPN 3,310,113.

Moon discloses all elements as mentioned above, however does not disclose a specific material for the bristles (35.)

Maness discloses a well cleaner that uses steel bristles (Column 1 Lines 22-25; Column 2 Lines 61-62) for the cleaning and abrading of a pipe.

It would have been obvious for one of ordinary skill in the art at the time the invention was made for Moon to employ the bristles of Maness since it has been held within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious engineering choice. In re Leshin, 125 USPQ 416.

10. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al., USPN 1,608,347 in view of Hapstack, USPN 5,018,451.

Thompson et al. discloses all elements as mentioned above, however does not disclose means to move bodies towards or away from each other as electrical or fluid pressure.

Hapstack discloses an extendable pipe crawler that uses pneumatic cylinders controlled by electricity in order to connect two cleaning bodies (Figures 1 and 2; Column 2 Line 60 to Column 3 Line 8, where in the electrical power is the same as the power supply of Column 3 Line 4.)

It would have been obvious to one of ordinary skill in the art to substitute means of how the bodies are moved so that debris will not clog or jam required movement of the vehicle.

11. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al., USPN 1,608,347 in view of Von Arx, USPN 3,525,111.

Thompson et al. disclose all elements as mentioned above including an end of the shaft (G), however does not disclose an umbilical line.

Von Arx discloses an apparatus for treating the inner wall surface of a duct that includes two generally cylindrical bodies that move away from each other radially. Also, Von Arx discloses an umbilical line or cable (Figure 7 (550)) that is used to pull the entire device over frictional surfaces or uphill, Column 5 Lines.23-25.

It would have been obvious to one of ordinary skill in the art to attach a cable or umbilical line as Von Arx teaches to the shaft of Thompson et al. so that the device may be controlled, guided, and moved by a user.

### ***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C Cole whose telephone number is (703) 305-7279. The examiner can normally be reached on Monday-Thursday, 7am - 4:30pm, alternating Fridays.

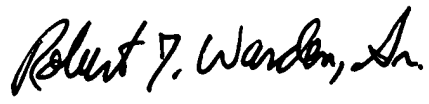
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Warden can be reached on (703) 308-2920. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8772 for regular communications and (703) 873-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

LCC  
LCC  
January 29, 2003

  
ROBERT J. WARDEN, SR.  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700